



377 Research Parkway, Suite 2-D
Meriden, CT 06450-7160
203-238-1207

**TESTIMONY RE: S. B. No. 919 (RAISED) AN ACT PHASING OUT THE USE OF
POLYBROMINATED DIPHENYL ETHERS.**

**Environment Committee Hearing
March 2, 2009**

Good morning Senator Meyer, Representative Roy and members of the Environment Committee.

Thank-you for the opportunity to provide testimony on behalf of the Connecticut Nurses' Association (CNA), the professional organization for registered nurses in Connecticut. I am Polly T. Barey, RN, MS, a nurse with many years of experience in public health, home health care and mental health and a member of the Connecticut Nurses' Association's Government Relations Committee. I speak in strong support of S.B. 919, An Act Polybrominated Diphenyl Ethers which would begin the phase-out of "polybrominated flame retardants." We offer the following information or concerns related to our support.

- As our society used more plastics and other synthetic materials in electrical appliances, textiles, upholstery and construction materials there was increased potential for flammability of these products. In order to meet fire safety standards, chemicals known as "flame retardants" have been added to these products.
 - **Concern:** many of these flame retardants do not remain stable in the product but leak into our air, attach to our dust and water and eventually into our food, our bodies and wildlife.
 - **Concern:** because fire retardants are in so many of our everyday products like carpeting, furniture, televisions, computers, children are potentially at risk of exposures amounts that exceed the U. S. Environmental Protection Agency's recommended levels.

- **Concern:** because children's behavior includes playing on the floor and putting things in their mouths they ingest more flame retardants and other toxic substances.
- In the first nationwide investigation of PBDEs in parents and their children, researchers found that toddlers and pre-schoolers typically had 3 times more of the neurotoxic compounds in their blood as their mothers. The study suggests that U.S. children 1 to 4 years of age bear the heaviest burden of flame retardant pollution in the industrialized world. (<http://www.ewg.org/reports/pbdesintoddlers>)
 - **Concern:** children are at a greater risk for adverse effects of toxic substances for a number of reasons.
 - Internal organs are still developing and maturing; the enzyme, metabolic, and immune systems have less protection than adults.
 - The developing brain and reproductive systems are very vulnerable to exposures from toxic substances.
 - "Critical periods" in human development when exposure to a toxin occurs can permanently alter the way that the biological system operates
 - The neurotoxic effects of PBDEs are similar to those observed for PCBs (an endocrine disruptor) which exhibit a wide range of toxic effects. Studies have shown that PCBs alter estrogen levels in the body and contribute to reproduction problems.
- In two studies American women were found to have high amounts of these flame retardants in their breast milk; the levels were the highest known in the world.
- PBDEs are persistent chemicals – persistent organic pollutants (POPs). Their chemical structures do not break down easily which make them persistent in the environment and they are difficult or nearly impossible to contain once released. They are also absorbed by the body and accumulate in the fatty tissue.
- Concerns raised in recent research about the toxicity of flame retardant chemicals make it urgent that the proposed phase-out of these dangerous chemicals seem a logical first step to decreasing their use.
 - "Based on the available data, we know that brominated flame retardants (BFRs) are associated with several adverse health effects in animal studies, including developmental effects that include permanent changes in memory and learning, interference with normal thyroid function, and reproductive effects. There is evidence that some BFRs can cause immune suppression, endocrine disruption, and cancer. Measurements in humans are troubling

because some levels are rapidly approaching those associated with adverse effects in rodent studies.” *Flame Retardants: Alarming Increases in Humans and the Environment*

<http://www.noharm.org/details.cfm?ID=1098&type=document>

- The costs associated with health effects from PBDEs
 - The costs of the health effects of the diseases associated with BPT are enormous. The affected person, their family, the community and our society are all burdened. Research by Landrigan, et al in 1997 (*Environmental Pollutants and Disease in American Children: Estimate of Morbidity, Mortality, and Costs for Lead Poisoning, Asthma, Cancer, and Developmental Disabilities*) puts the annual charges per child with newly incident cancer of pediatric cancer of environmental origin in 1998 dollars at \$509,000. When lost wages of parent were added in for 5 lost days per 7 child hospital days, the total reaches \$583,000. Lifetime cost data was available for the U.S. for 1997 was put at \$72.4 billion for mental retardation, and \$7.6 billion for autism. These are staggering cost figures but they don't take into account the emotional and physical pieces of caring for a child with developmental disabilities
- Why would we continue to use a toxic substance when there are safer alternatives?
 - The following companies have taken the lead in making changes in their use of materials
 - **Herman Miller** (Herman Miller's Mirra chair is an example of a new product designed to use materials that rank well in the assessment protocol. Polyvinyl chloride (PVC) plastic(or vinyl), brominated flame retardants and other materials of concern were replaced with safer alternatives. If current suppliers where unable to meet the new environmental standards necessary for the product, they searched for new suppliers who could. This has important ramification across supply chains by rewarding those suppliers working to produce and deliver safer materials and chemicals. In addition to hazard assessments, Herman Miller also designs for reuse and recycling to achieve their zero landfill goal.)
 - **IKEA** Most of the OSPAR high priority chemicals are not used in IKEA products. IKEA has phased out the use of brominated flame retardants (BFRs) in mattresses, carpets, and furniture. IKEA is still working to phase out BFRs in their lighting fixtures. With the exception of cables, IKEA phased out all uses of PVC by 1996, thereby significantly reducing and often eliminating the use of phthalates and organotins. They have a phthalate ban on all children's products. IKEA bans pesticides from their products. IKEA also bans the use of carcinogens in their products. info.ikea-usa.com/IKEAContactUs/Contact.aspx
 - Dell; Hewlett Packard; Apple; IBM; Toshiba; Samsung Electronics; SONY
 - Shaw, Interface, Steel Case

- VOLVO, Ford, Honda, Toyota
- Others can be found at: (<http://dgcommunications.com/safer-products/page.php?p=indu&s=herm>)

- **Act now! Phase out PBDEs and use safer alternatives**
 - Regulation does work. Dr. Joel Forman's slide (attached addenda) graphs the difference between the phase out in Sweden beginning in 1990 compared to the U.S. with no regulatory action with the U.S. showing a significant rise.
 - "Despite the evidence that PBDEs are harmful, that they pollute people's blood, and that safer alternatives are available, the EPA has done little to address children's ongoing exposure. Deca remains widely used, and a regulatory loophole allows Penta, one of the PBDEs banned earlier, to enter the U.S. in imported furniture. Until Deca is banned in all consumer products, Penta is banned from imports, and fire safety regulations are revised to promote non-chemical solutions, American families – and especially their children – will continue to be needlessly exposed to these harmful compounds."

Thank you for your consideration. Based on the current literature and evidence related to the risks of PBDE exposures, we urge the committee to act favorably on this bill

CT Nurses Association is a member of Health Care Without Harm (<http://www.noharm.org/>) an international coalition of 443 organizations in 52 countries working to transform the health care industry so it is no longer a source of harm to people and the environment

ADDENDA

Brominated Flame Retardants: Rising Levels of Concern

www.noharm.org

Chemicals Compromising Our Children

http://www.healthyenvironmentforkids.ca/img_upload/13297cd6a147585a24c1c6233d8d96d8/Neurotox_briefing_EN.pdf

Flame Retardants: Alarming Increases in Humans and the Environment

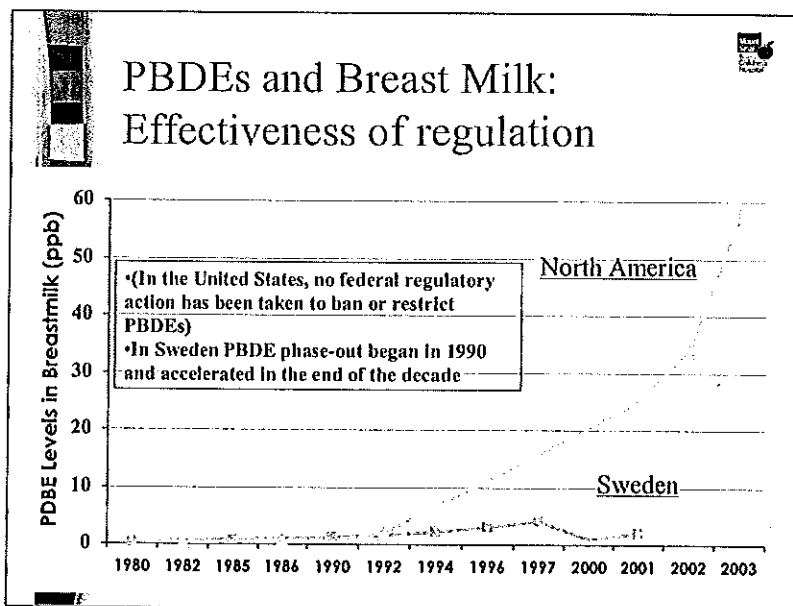
www.noharm.org

Nationwide Investigation of chemical fire retardants (PBDEs) - 2008

Investigation information available at: www.epa.gov/reports/pbdesintoddlers

The Case Against Candle Resistant Electronics

http://www.cela.ca/files/uploads/MASTER_White_paper2008_02_04.pdf



Joel Forman, MD, associate professor of pediatric and community and preventive medicine, Mt Sinai School of Medicine, Children's Environmental Health Center, presentation 2/4/09 at the Connecticut Legislative Office Building.

polybrominated diphenyl ethers (PBDEs)

http://www.checnet.org/healtheHouse/chemicals/chemicals-detail2.asp?Main_ID=902

Polybrominated Diphenyl Ethers (PBDEs): New Pollutants-Old Diseases

Muhammad Akmal Siddiqi, PhD, Ronald H. Laessig, PhD, and Kurt D. Reed, MD

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1069057>